

<b>Interview Summary</b>	Application No. 09/838,068	Applicant(s) HALLER ET AL.	
	Examiner Haresh Patel	Art Unit 2154	

All participants (applicant, applicant's representative, PTO personnel):

- (1) Haresh Patel. (3)\_\_\_\_\_.
- (2) Stephen M Hladik. (4)\_\_\_\_\_.

Date of Interview: 12 May 2004.

Type: a) ☒ Telephonic b) ☐ Video Conference  
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.  
If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1, 6 and 12.

Identification of prior art discussed: Patents, Soell et al. 5,923,900 and Papworth et al. 5,584,037.


Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The Examiner called the Applicant to discuss an Examiner's amendment. The Applicant went over the claims 1, 6 and 12 with the Examiner. The Applicant and Examiner agreed to the claim language as seen in the Examiner's amendment.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

  
 Examiner's signature, if required

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

#### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

##### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

#### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Stephen M Hladik on May 12, 2004.

3. The application has been amended as follows:

In the claims:

I. In claim 1:

- a. lines 3 and 6, replace "at least one process" with "processes"
- b. line 15, add "in said buffer" after "around"
- c. lines 17 and 21, add "said" after "indicates"

II. In claim 6:

- a. lines 2 and 6, replace "at least one process" with "processes"
- b. line 15, add "in said buffer" after "around"
- c. lines 17 and 21, add "said" after "indicates"

III. In claim 12:

- a. lines 5 and 8, replace "at least one process" with "processes"
- b. line 17, add "in said storage device" after "around"
- c. lines 19 and 23, add "said" after "indicates"

### DETAILED ACTION

- 4. The amendment on May 12, 2004 is noted and made of record.
- 5. Claims 1-17 are presented for examination.

*Allowable Subject Matter*

6. Claims 1-17 are allowed.

7. The following is an examiner's statement of reasons for allowance:

Applicant's invention discloses steps for manipulating a wrap around buffer for determining the status, i.e., readiness for further processing of entries in an instruction window buffer of a parallel processing environment (page 10, lines 17-20, applicant's response, paper number 7) by:

(i) comparing an entry index of the entry to an out-pointer to determine whether the entry index is greater than or equal to the out-pointer;

(ii) comparing the entry index of the entry to an in-pointer to determine whether the entry index is less than the in-pointer;

(iii) determining whether a buffer wrap around of the buffer has occurred, and one of the comparing (i) and the comparing (ii) is true, and if so, setting the status information of the entry to a value which indicated readiness of the entry for further processing by the at least one process; and

(iv) determining whether the comparing (i) and the comparing (ii) are both true, and if so, setting the status information of the entry to a value which indicates readiness of the entry for further processing by the at least one process.

The cited teaching, saves data transfers and complexity of the overall processing because a simple additional circuit is added to the buffer itself which automatically generates the active window status information required for the plurality of processes like renaming registers, issuing and committing instructions, as an output associated with a respective entry and automatically

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generated when and IN and OUT pointer pair specific for each of the plurality of processes is input in the circuit. In particular, the automatic status generation is very advantageous against prior art where the new status information had to be derived from the status information of the preceding status stored in latches because of cycle time requirements.

Each entry stores its actual buffer index. By a logical circuit comprising a comparison between the index and the respective relation to the respective current IN and OUT pointer values an entry is made 'intelligent' in the sense that it knows if it belongs to the valid entries for which the active window bit needs to be ON, i.e., entries between the OUT and IN pointer with possible wrap-around.

Thus, a novel method is disclosed in which the active bits are generated cellular for each IWB entry. Each entry contains a greater-equal compare that is used to calculate, based on an in- and out-pointer, if the entry is part of the active window. Thereby different in- and out-pointer values are applied for the different IWB macros to match the active window to the macro protocol requirements. As a further advantage there are no undetermined cycles because the validation information can be obtained before the end of the cycle in which a respective value pair of the IN- and OUT pointer is input to the combinatorial logic.

The prior art at best, in particularly Soell et al. 5,923,900 and Papworth et al. 5,584,037, teaches manipulating a wrap-around buffer to store the status of the entries by considering whether the OUT pointer is less than the entry and whether the buffer has wrapped around. These prior arts do not determine whether the entry is part of the active window by performing multiple above-mentioned compares in order to set the status. Therefore, the claims are allowable over the art of record.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is (703) 605-5234. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee, can be reached at (703) 305-8498.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Haresh Patel

May 12, 2004



JOHN FOLLANSBEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100